

# Polypharmacy major drug interaction. potential drug-drug interactions

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Polypharmacy is the practice of administering many different medicines especially concurrently, for the treatment of a single disease.

It can also be defined as the concurrent use of multiple medications, usually more than five and potentially clinically inappropriate, to treat usually co-existing conditions, which may lead to drug-drug interaction. Drug-drug interaction is a situation in which a drug affects the activity or is affected by another drug, when administered together. This may be synergistic, antagonistic, or may produce a new effect which neither drug produces alone.

Therefore, drug-drug interactions have a higher probability of occurrence in patients with polypharmacy. The elderly population of India is estimated at 104 million, 53 million females and 51 million males; and is continuously increasing. This figure is expected to rise to more than 300 million, constituting 20 per cent of India's total population, by 2050.

Common morbidities faced by the elderly include hypertension, arthritis, osteoporosis and diabetes mellitus among others. Most of these co-exist with other morbidities. Prevalence of polypharmacy is also mostly observed among the elderly. Internationally, almost 40 per cent of the elderly living in their own homes. In India, too, polypharmacy is widely prevalent, and, predictably, much more so in case of elderly individuals.

A study done among 814 patients in two teaching hospitals showed that among the elderly, systemic anti-bacterials were the most commonly prescribed therapeutic class of medications and pantoprazole was the most commonly prescribed medication. The medications were prescribed in 30 per cent of the cases when these were not indicated. Among adults older than

55, numbers suggest around 4 per cent are taking medication and/or supplements that puts them at risk of major drug interaction.

Potential drug-drug interactions have increased over time and are more common among the low educated elderly.